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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,146	12/11/2003	Kenneth George Maclean	TI-36584	7385

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EXAMINER
WENDELL, ANDREW

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
06/12/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/733,146	MACLEAN ET AL.	
	Examiner	Art Unit	
	ANDREW WENDELL	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8,9 and 11-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,9 and 11-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 8-11, and 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (US Pat Pub# 2002/0049041) in view of Avasarala et al. (US Pat Pub# 2005/0107043).

Regarding claim 1, Marshall teaches a transceiver (Figs. 3 and 4) comprising a receiver 106 (Figs. 3 and 4) coupled to receive a signal at a first node, the receiver establishing a desired common mode voltage at the first node (between 114 and 110, Figs. 3 and 4); circuitry 104 or 112 (Figs. 3 and 4) coupled to establish the desired common mode voltage at a second node (between 112 and 108, Figs. 3 and 4); a transmitter 104 (Figs. 3 and 4) coupled to provide a transmitter output signal at a third node (between Tx and at line 108, Figs. 3 and 4)), which is different from the first (between 114 and 110, Figs. 3 and 4) and second nodes (between 112 and 108, Figs. 3 and 4); and the first and second nodes being connected to define at least a portion of a low impedance path during a first operating mode for diverting a signal received at the first node away from the receiver (Fig. 3, transmit mode), and the first and second nodes defining a high impedance path during a second operating mode for enabling

the signal received at the first node to be provided to the receiver (Fig. 4, receive mode). Marshall fails to teach the first and second nodes being disconnected.

Avasarala teaches the first (line to receiver 212 from switch 218 in figure 2) and second nodes (line to transmitter 214 from switch 218 in figure 2) being disconnected (Section 0022).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate Marshall fails to teach the first and second nodes being disconnected as taught by Avasarala into Marshall's transceiver in order to reduce interference (Section 0026).

Regarding claim 2, Marshall teaches providing the low impedance path during the first operating mode (Fig. 3, transmit mode), and the high impedance path during the second operating mode (Fig. 4, receive mode).

Avasarala teaches a switch device 218 (Fig. 2) connected between the first and second nodes (Fig. 2).

Regarding claim 8, Marshall teaches an antenna 102 (Figs. 3 and 4) connected between the first and third nodes.

Regarding claim 9, the combination including Avasarala teaches an antenna being configured to define a resonant circuit having a resonant frequency corresponding to the frequency of the transmitter output signal (Sections 0020-0025).

Regarding claim 10, the combination including Avasarala teaches an integrated circuit comprising the transceiver ("Integration of Diversity switch in combination with a T/R Switch for a radio transceiver on a single chip", Title).

Regarding claim 11, Marshall teaches a receiver 106 (Figs. 3 and 4) coupled to receive a signal at a first node, the receiver establishing a desired common mode voltage at the first node (between 114 and 110, Figs. 3 and 4); an amplifier 104 or 106 (Figs. 3 and 4) coupled to establish the desired common mode voltage at a second node (between 112 and 108, Figs. 3 and 4); a switch device 116 (Figs. 3 and 4) connected between the first and second nodes, the switch device operating to connect the first and second nodes to provide a low impedance path during a first operating mode (Fig. 3, transmit mode), and the switch operating to disconnect the first and second node during a second operating mode (Fig. 4, receive mode); a transmitter 104 (Figs. 3 and 4) that provides a transmitter output signal at a third node (anywhere along 108 of Fig. 3) having a desired carrier frequency; an antenna 102 (Fig. 3) coupled between the first and third nodes; and a low impedance path coupled to the second node for diverting current away from the first node during the first operating mode (Fig. 3). Marshall fails to teach a switch device 116 (Figs. 3 and 4) connected between the first and second nodes.

Avasarala teaches a switch device 218 (Fig. 2) connected between the first and second nodes (Fig. 2).

Regarding claim 13, the combination including Avasarala teaches at least the receiver, the amplifier, the transmitter and the switch comprising an integrated circuit ("Integration of Diversity switch in combination with a T/R Switch for a radio transceiver on a single chip", Title).

Regarding claim 14, apparatus claim 14 is rejected for the same reason as apparatus claim 1 since the recited elements would perform the claimed steps.

Regarding claim 15, the combination including Marshall teaches means for diverting electrical current away from the first node during the transmit operating mode (Fig. 3, transmit mode).

Regarding claim 16, the combination including Marshall teaches means for diverting electrical current away from the first node further comprising a low impedance path coupled to the second node (Fig. 4, receive mode).

Regarding claim 17, the combination including Marshall teaches means for providing a transmission signal 104 (Fig. 3) at a third node; and antenna means 102 (Fig. 3) for broadcasting the transmission signal during the transmit operating mode and for receiving signals from free space during the receive operating mode (Fig. 3, transmit mode), the antenna means being coupled between first node and the third node (Fig. 3, all connected together in a loop).

Regarding claim 18, method claim 18 is rejected for the same reason as apparatus claims 1 and 14 since the recited elements would perform the claimed steps.

Regarding claim 19, Marshall teaches an antenna 102 (Fig. 3) being coupled between the first and third nodes so that the transmission signal is provided to the low impedance path and away from the first node during the transmit operating mode (Fig. 3, transmit mode).

Regarding claim 20, the combination including Avasarala teaches sensing the transmission signal and adjusting transmit power of the transmission signal based on the sensed transmission signal (Sections 0020-0025).

Regarding claim 21, the combination including Marshall teaches detecting a signal received at an antenna coupled to the first node (Fig. 4).

Regarding claim 22, the combination including Avasarala teaches detecting the signal by varying an output signal provided at an output of an amplifier as a function the signal received at the antenna while maintaining the common mode voltage at the first node (Sections 0020-0025), the output of the amplifier being connected to the first node through at least one impedance element (Fig. 2).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (US Pat Pub# 2002/0049041) in view of Avasarala et al. (US Pat Pub# 2005/0107043).

Regarding claim 3, Marshall in view of Avasarala teaches the limitations in claims 1 and 2. Marshall and Avasarala fails to teach a controller.

It would be obvious that Marshall teaches a controller coupled to operate the switch 116 (Figs. 3 and 4) based on a selected one of the first and second operating modes because if there was no controller than the switch would not be able to switch states between a transmit mode or receive mode correctly.

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a controller into the first and second nodes being disconnected as taught by Avasarala into Marshall's

transceiver in order to reduce complexity and improve switching (Sections 0005 and 0006).

4. Claims 4-6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (US Pat Pub# 2002/0049041) in view of Avasarala et al. (US Pat Pub# 2005/0107043) and further in view of Kim et al. (US Pat Pub# 2006/0256744).

Regarding claim 4, Marshall teaches the limitations in claim 1. Marshall fails to teach a resistor coupled between the first node and the output of an amplifier.

Kim teaches a resistor 508 (Fig. 1) coupled between the first node and the output of the amplifier 502 (Fig. 1).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a resistor coupled between the first node and the output of an amplifier as taught by Kim into the first and second nodes being disconnected as taught by Avasarala into Marshall's transceiver in order to improve performance and switching (Section 0008).

Regarding claim 5, Kim further teaches a feedback path 510 (Fig. 1) coupled between an input of the amplifier and the first node to enable the desired common mode voltage to be provided at the first node, the output of the amplifier varying as a function of the signal received at the first node during the second operating mode (Fig. 1).

Regarding claim 6, Marshall further teaches the circuitry further comprising an amplifier having an output that defines the second node and a feedback path between the second node and an input of the amplifier of the circuitry to establish the desired common mode voltage at the second node (Figs. 3 and 4).

Regarding claim 12, Kim further teaches an amplifier having an output; a resistor 508 (Fig. 1) coupled between the first node and the output of the receiver amplifier 502 (Fig. 1); and a feedback path 510 (Fig. 1) coupled between an input of the receiver amplifier and the first node to enable the desired common mode voltage to be provided at the first node, the output of the receiver amplifier changing as a function of a signal received by the antenna during the second operating mode (Fig. 1).

Response to Arguments

5. Applicant's arguments with respect to claims 1-6, 8-9, and 14-22 have been considered but are moot in view of the new ground(s) of rejection due to limitations that changes the scope (other than just claim 7 rolled up to the independent claim).

Applicant's Remarks	Examiner's Response
Regarding claim 11, "Regardless, the link 116 does not represent (or even suggest) the use of a switch to connect the first and second nodes as recited in claim 11."	In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Note, Avasarala is used to clearly teach a switch device.

Regarding claim 11, "there is no structure disclosed in Marshall that can correspond to the amplifier of claim 11, which is coupled to establish the common mode voltage at a second node, such that the basis in the Office Action fails to establish a prima facie case of unpatentability regarding claim 11."	Examiner believes applicant is reading more into the claims than present. The amplifiers 104 or 106 (Figs. 3 and 4) are used to control the signal (either increase voltage signal or lower the voltage signal) to a desired level. Therefore the amplifiers are used to establish a desired voltage received at the second node. If the amplifiers were not present the voltages going across the second node would not be regulated to a desired level and therefore could potentially hurt the performance of the transceiver.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW WENDELL whose telephone number is (571)272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Wendell/
Examiner, Art Unit 2618

/Nay A. Maung/
Supervisory Patent Examiner, Art Unit 2618

5/29/2008